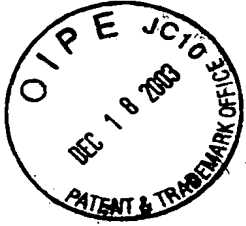


DOCKET NO.: MOR-0241/HD0002US

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Luigi Grasso, et al.

Application No.: 10/624,631

Filing Date: July 21, 2003

Confirmation No.: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

For: **METHODS FOR GENERATING ENHANCED ANTIBODY-PRODUCING
CELL LINES WITH IMPROVED GROWTH CHARACTERISTICS**

DATE OF DEPOSIT:

December 15, 2003

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE UNITED STATES PATENT AND TRADEMARK OFFICE, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

Elizabeth A. McLoud

TYPED NAME: Elizabeth A. McLoud

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).



In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of the above identified application as set forth in § 1.491, before the mailing date

of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

☐ In accordance with § 1.129(a), this Information Disclosure Statement is being filed in connection with ☐ the first or ☐ second After Final Submission, therefore:

☐ Certification in Accordance with § 1.97(e) is attached; or

☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.

☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:

☐ Certification in Accordance with § 1.97(e) is attached;
or

☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.

☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of \$180.00 as set forth in § 1.17(p).

☒ Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.

☐ Copies of references listed on the attached Form PTO-1449 are enclosed herewith

- ☐ Copies of references listed on the attached Form PTO 1449 are not required to be submitted pursuant to the June 30, 2003 recent revisions to 37 CFR § 1.98(a)(2)(i).

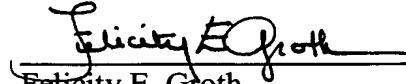
EXCEPT THAT:

- ☐ In view of the voluminous nature of references [list as appropriate], and the likelihood that these references are available to the Examiner, copies are not enclosed herewith.
- ☐ In accordance with § 1.98(d), copies of the following references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application(s) for which a claim for priority under 35 U.S.C. § 120 have been made in the instant application:
- ☐ Copies of references [list as appropriate] listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. _____, filed _____.

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

- ☐ The relevance of those listed references which are not in the English language is as follows:
- ☒ There are no listed references which are not in the English language.

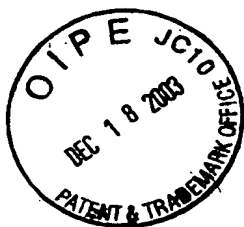
Date: December 15, 2003


Felicity E. Groth
Registration No. 47,042

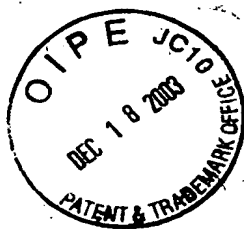
WOODCOCK WASHBURN LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439



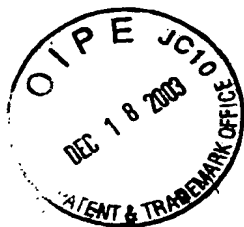
Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. MOR-0241/ HD0002US	Application No. 10/624,631
		Applicant Luigi Grasso, et al.	
		Filing Date July 21, 2003	Group Not Yet Assigned
		Confirmation No. Not Yet Assigned	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	51	Allen, D., et al., "MutS mediates heteroduplex loop formation by a translocation mechanism," <i>EMBO J.</i> , 1997 , 16(14), 4467-4476	
	52	Anderson, W.F., "Human gene therapy," <i>Nature</i> , April 30, 1998 , 392, 25-30	
	53	Aronshtam, A., et al. "Dominant negative mutator mutations in the mutL gene of <i>Escherichia coli</i> ", <i>Nucleic Acids Research</i> , 1996 , 24(13), pp 2498-2504	
	54	Bell, C.J., et al., "Assignment of 30 microsatellite loci to the linkage map of <i>arabidopsis</i> ," <i>Enomics</i> , 1994 , 19, 137-144	
	55	Bishop J., "Chromosomal insertion of foreign DNA, <i>Reprod. Nutr. Dev.</i> , 1996 , 36, 607-618	
	56	Bjornson, K., et al., "Modulation of MutS ATP hydrolysis by DNA cofactors," <i>Biochemistry</i> , 2000 , 39, 3176-3183	
	57	Bork, P., "Powers and pitfalls in sequence analysis: the 70% hurdle," <i>Genome Research</i> , 2000 , 10, 398-400	
	58	Bork, P., et al., "Go hunting in sequence databases but watch out for the traps," <i>Trends in Genetics</i> , 1996 , 12(10), 425-427	
	59	Brenner, S.E., "Errors in genome annotation," <i>Trends in Genetics</i> , April 1999 , 15(4), 132-133	
	60	Cascalho M, et al. "Mismatch repair co-opted by hypermutation", <i>Science</i> , 1998 , 279(20), pp 1207-1210	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. MOR-0241/ HD0002US	Application No. 10/624,631
		Applicant Luigi Grasso, et al.	
		Filing Date July 21, 2003	Group Not Yet Assigned
		Confirmation No. Not Yet Assigned	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	61	Chakravarti, D. et al., "Relating aromatic hydrocarbon-induced DNA adducts and c-H-ras mutations in mouse skin papillomas: The role of apurinic sites", <i>Proc. Natl. Acad. Sci. USA</i> , October 1995 , Vol. 92, pp. 10422-10426	
	62	Culligan, K.M., et al., "DNA mismatch repair in plants," <i>Plant Physiol.</i> , 1997 , 15, XP-002099372, 833-839	
	63	Cramer, A., et al., "Combinatorial multiple cassette mutagenesis creates all the permutations of mutant and wild-type sequences," <i>BioTechniques</i> , 1995 , 18(2), 194-196	
	64	Edelmann, W., et al., "Meiotic pachytene arrest in MLH1-deficient mice," <i>Cell</i> , 1996 , 85, 1125-1134	
	65	Harfe, B.D., "DNA mismatch repair and genetic instability," <i>Annu. Rev. Genet.</i> , 2000 , 34, 359-399	
	66	Hoang J., et al., "BAT-26, an Indicator of the Replication Error Phenotype in Colorectal Cancers and Cell Lines", <i>Cancer Res.</i> , 1997 , 57, 300-303	
	67	Honma, M. et al., "Cytotoxic and Mutagenic Responses to X-rays and Chemical Mutagens in Normal and p53-mutated Human Lymphoblastoid Cells", <i>Mut. Res.</i> , 1997 , 374, 89-98	
	68	Haught, C., et al., "A method to insert a DNA fragment into a double-stranded plasmid," <i>BioTechniques</i> , 1994 , 16(1), 47-48	
	69	Jean, M., et al., "Isolation and characterization of <i>AtMLH1</i> , a <i>MutL</i> homologue from <i>Arabidopsis thaliana</i> ," <i>Mol. Gen. Genet.</i> , 1999 , 262, XP-000986138, 633-642	
	70	Jiricny, J., et al., "Mismatch repair defects in cancer," <i>Curr. Opin. Genet. Dev.</i> , 2000 , 10, 157-161	
EXAMINER		DATE CONSIDERED	



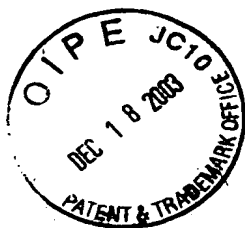
Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. MOR-0241/ HD0002US	Application No. 10/624,631
		Applicant Luigi Grasso, et al.	
		Filing Date July 21, 2003	Group Not Yet Assigned
		Confirmation No. Not Yet Assigned	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	71	Karran, P., et al., "Genomic instability and tolerance to alkylating agents," <i>Cancer Surveys</i> , 1996 , 28, 69-71	
	72	Kong, Q., et al., "PMS2-deficiency diminishes hypermutation of a lamdal transgene in young but not older mice", <i>Mol. Immunol.</i> , 1999 , 36, 83-91	
	73	Kunkel, T.A., et al., "Efficient site-directed mutagenesis using uracilcontaining DNA," <i>Methods Enzymol.</i> , 1991 , 204, 125-139	
	74	Leach, F.S., et al., "Mutations of a mutS homolog in hereditary nonpolyposis colorectal cancer," <i>Cell</i> , 1993 , 75, 1215-1225	
	75	Liu et al., "Analysis of Mismatch Repair Genes in Hereditary Non-polypsis Colorectal Cancer Patients", <i>Nature Medicine</i> , February 1996 , 2(2), 169-174	
	76	Ma et al., "Dominant Negative Expression of hPMS2 Creates Isogenic Mismatch Repair Deficient Human Colon Cancer Cell Lines", <i>Proc. Am. Assoc. Cancer Res.</i> , March 1998 , 39, p. 460 (Abstract #3130)	
	77	McCallum, C.M., "Targeted screening for induced mutations," <i>Nature Biotechnology</i> , 2000 , 18, 455-457	
	78	Nicolaides, N.C., et al., "Positive autoregulation of c-myb, expression via Myb binding sites in the 5' flanking region of the human c-myb gene," <i>Molecular and Cellular Biology</i> , 1991 , 11(12), 6166-6176	
	79	Nicolaides, N.C., et al., "Mutations of two PMS homologues in hereditary nonpolyposis colon cancer," <i>Nature</i> , 1994 , 371, 75-80	
	80	Ngo, J.T., "Computational complexity, protein structure prediction, and the levinthal paradox," <i>The Protein Folding prolem and Tertiary Structure Prediction</i> , Merz, K., et al. (Eds.), 1994 , 491-495	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. MOR-0241/ HD0002US	Application No. 10/624,631
		Applicant Luigi Grasso, et al.	
		Filing Date July 21, 2003	Group Not Yet Assigned
		Confirmation No. Not Yet Assigned	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	81	Papadopoulos, N., et al., "Mutations of <i>GTBP</i> in genetically unstable cells," <i>Science</i> , 1995, 268, 1915-1917	
	82	Parsons, R., et al., "Mismatch repair deficiency in phenotypically normal human cells," <i>Science</i> , May 5, 1995, 268, 738-740	
	83	Peinado, M.A., et al., "Isolation and characterization of allelic losses and gains in colorectal tumors by arbitrarily primed polymerase chain reaction," <i>Proc. Natl. Acad. Sci. USA</i> , November 1992, 89, 10065-10069	
	84	Polaczek, P., et al. "Functional genetic tests of DNA mismatch repair protein activity in <i>Saccharomyces cerevisiae</i> ", <i>Gene</i> , 1998, 213(1-2), pp 159-167	
	85	Polejaeva, et al., "New advances in somatic cell nuclear transfer application in transgenesis," <i>Theriogenology</i> , 2000, 53, 117-126	
	86	Rulicke, T., et al., "Special review series -- gene manipulation and integrative physiology," <i>Experimental Physiology</i> , 2000, 85.6, 589-601	
	87	Russell, et al., "Structural features can be unconserved in proteins with similar folds," <i>J. Mol. Biol.</i> , 1994, 244, 332-350	
	88	Schrader, C.E. et al., "Reduced Isotype Switching in Splenic B Cells from Mice Deficient in Mismatch Repair Enzymes", <i>Journal of Experimental Medicine</i> , 1999, 190(3), 323-330	
	89	Spampinato, C., et al., "The MutL ATPase is required for mismatch repair," <i>J. Biological Chemistry</i> , 2000, 275(13), 9863-9869	
	90	Verma, et al. "Gene therapy -- promises, problems and prospects," <i>Nature</i> , September 18, 1997, 389, 239-242	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. MOR-0241/ HD0002US		Application No. 10/624,631	
	Applicant Luigi Grasso, et al.			
	Filing Date July 21, 2003		Group Not Yet Assigned	
	Confirmation No. Not Yet Assigned			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)				
	91	Vora, K.A. et al., "Severe Attenuation of the B Cell Immune Response in Msh2-deficient Mice", <i>Journal of Experimental Medicine</i> , February 1999 , 189(3), 471-481		
	92	Wheeler, J.M.D., et al., "The role of hypermethylation of the <i>hMLH1</i> promoter region in HNPCC versus MSI+sporadic colorectal cancers," <i>J. Med. Genet.</i> , 2000 , 588-592		
	93	Winter, D.B. et al., "Altered spectra of hypermutation in antibodies from mice deficient for the DNA mismatch repair protein PMS2", <i>Proc. Natl. Acad. Sci., USA</i> , June 1998 , 95, 6953-6958		
	94	Yu, Y. et al., "Adriamycin induces large deletions as a major type of mutation in CHO cells", <i>Mutation Research</i> , November 1994 , Vol. 325, pp. 91-98		
EXAMINER		DATE CONSIDERED		



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. MOR-0241/ HD0002US	Application No. 10/624,631
	Applicant Luigi Grasso, et al.	
	Filing Date July 21, 2003	Group Not Yet Assigned
	Confirmation No. Not Yet Assigned	

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	95	5,885,827	03/23/99	Wabl, et al.	435	320.1
	96	5,907,079	05/25/99	Mak et al.	800	2
	97	6,191,268 B1	02/20/01	Liskay et al.	536	23.5
	98	6,287,862 B1	09/11/91	delCardayre, et al.	435	440

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO
	99	WO 97/05268	02/13/97	PCT		
	100	WO 99/19492	04/22/99	PCT		
	101	WO 02/054856	07/18/02	PCT		
	102	2,240,609	10/14/99	Canada		

EXAMINER

DATE CONSIDERED